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(71) Applicant (for all designated States except US):  
**RECKITT, Benckiser, N.V. [NL/NL];** Kantoorgebouw  
De Appelaer, Fruittuinen 2-12, 2132 NZ Hoofddorp (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **RYMER, Shaun**  
[GB/GB]; Reckitt Benckiser Corporate Services Limited,

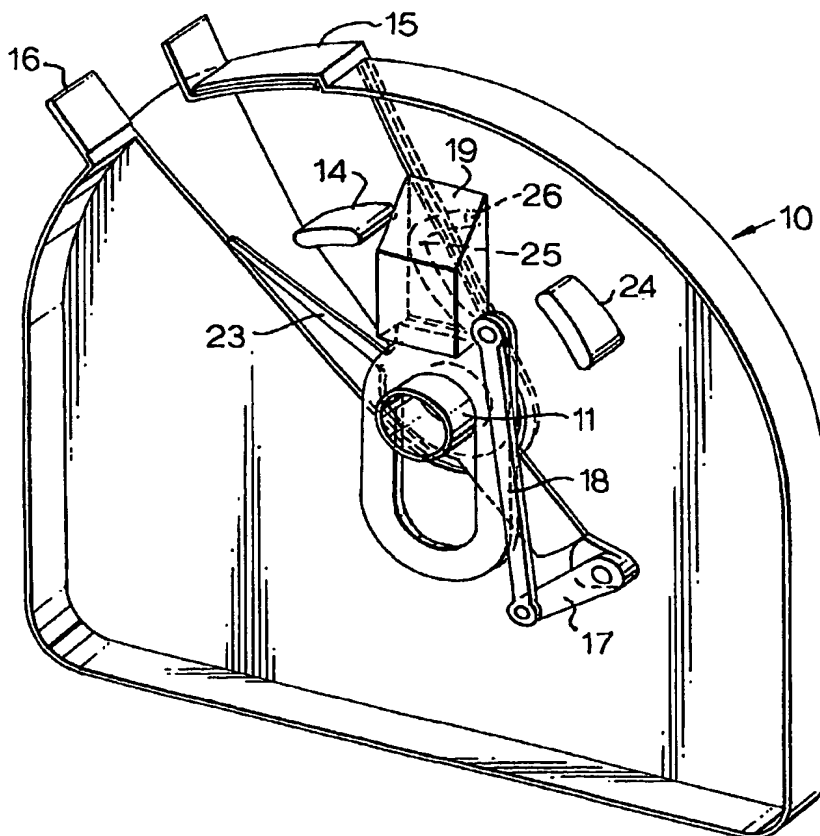
Dansom Lane, Hull HU8 7DS (GB). **SHEARSMITH, Phil**  
[GB/GB]; Reckitt Benckiser Corporate Services Limited,  
Dansom Lane, Hull HU8 7DS (GB). **JOWETT, Louise**  
[GB/GB]; Reckitt Benckiser Corporate Services Limited,  
Dansom Lane, Hull HU8 7DS (GB). **PREUSCHEN,**  
**Judith [DE/DE];** Reckitt Benckiser Produktions GmbH,  
Benckiser Platz 1, 67059 Ludwigshafen (DE). **WIEDE-**  
**MANN, Ralf [DE/DE];** Reckitt Benckiser Produktions  
GmbH, Benckiser Platz 1, 67059 Ludwigshafen (DE).

(74) Agents: **BOWERS, Craig, M. et al.;** Reckitt Benckiser  
plc, Group Patents Department, Dansom Lane, Hull HU8  
7DS (GB).

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**LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,**  
**MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE,**

[Continued on next page]

(54) Title: **DISHWASHER UNIT DOSE DETERGENT DISPENSER**



(57) Abstract: The present invention is directed to a device for receiving and holding a plurality of unit doses (2) of a detergent composition and/or additive and for individually dispensing said unit doses into an automatic dishwashing machine over a plurality of washing cycles, wherein the device comprises (i) a housing (10) adapted to receive said plurality of unit doses (2) each separately contained in a package or compartment (4) thereof, (ii) means (15, 16, 17, 18, 19) for opening said package or compartment or for at least partly ejecting said unit dose (2) therefrom; and (iii) means (20, 21, 27, 28) to allow access of water or wash liquor to said unit doses (2) contained in the opened package or compartment (4) or ejected therefrom within a controlled time period after opening thereof to allow dissolution of the unit dose (2) into the water or wash liquor of the machine, as well as to a blister pack (1) for use therewith.



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## INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER  
 IPC 7 A47L15/44 C11D17/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A47L C11D B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
|------------|--|-----------------------|
| X          | GB 838 637 A (LADEN S A)<br>22 June 1960 (1960-06-22)<br>page 1, line 8 - line 12<br>page 1, line 84 -page 2, line 31; figure 4  | 1,9-11                |
| Y          |  | 6,8                   |
| Y          | DE 199 54 706 A (AEG HAUSGERAETE GMBH)<br>23 May 2001 (2001-05-23)<br>column 1, line 45 - line 54<br>column 2, line 6 - line 36<br>column 3, line 55 -column 4, line 6;<br>figures 1-3 | 6                     |
| Y          | DE 43 44 205 A (AWECO KUNSTSTOFFTECH<br>GERAETE) 29 June 1995 (1995-06-29)<br>cited in the application<br>column 3, line 26 - line 27; figures 1,2                                     | 8                     |
|            | ---<br>-/-   |                       |

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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"&" document member of the same patent family

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European Patent Office, P.B. 5818 Patentlaan 2  
 NL - 2280 HV Rijswijk  
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
 Fax: (+31-70) 340-3016

Authorized officer

Papadimitriou, S

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
|------------|---|-----------------------|
| X          | EP 1 174 363 A (PAPP ENTPR LLC)<br>23 January 2002 (2002-01-23)<br>paragraph '0086!; figure 22B   | 12,13                 |
| Y          | -----   | 14-16                 |
| Y          | US 3 482 733 A (GROVES ROBERT C)<br>9 December 1969 (1969-12-09)<br>column 3, line 29 - line 32   | 14                    |
| Y          | -----   | 15                    |
| Y          | US 6 177 398 B1 (WARWICK JANE MARGARET ET<br>AL) 23 January 2001 (2001-01-23)<br>column 1, line 41 - line 44<br>column 1, line 66 - column 2, line 26 | 15                    |
| Y          | -----   | 16                    |
| Y          | EP 1 104 805 A (PROCTER & GAMBLE)<br>6 June 2001 (2001-06-06)<br>paragraph '0071!   | 16                    |
| A          | -----   | 1,12,15               |
| A          | US 3 062 030 A (GROVES ROBERT C)<br>6 November 1962 (1962-11-06)<br>figures 4,6,12  | 1,12,15               |
| A          | -----   | 1                     |
| A          | US 3 178 915 A (WILHELM HERTEL)<br>20 April 1965 (1965-04-20)<br>column 1, line 44 - line 56; figures 1-4,6   | 1                     |
| A          | -----   | 2,4                   |
| A          | US 3 233 778 A (CUTHBERT VICTOR W ET AL)<br>8 February 1966 (1966-02-08)<br>column 2, line 50 - line 58; figure 3                                     | 2,4                   |

# INTERNATIONAL SEARCH REPORT

national application No.  
PCT/GB 03/00921

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-11

device for tow-stage dishwasher detergent dispensation

2. Claims: 12-14

Blister pack for detergent unit doses.

3. Claims: 12,15,16

Dishwasher detergent

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 03/00921

| Patent document<br>cited in search report |    | Publication<br>date | Patent family<br>member(s)  | Publication<br>date  |
|---|----|---------------------|---|--|
| GB 838637                                 | A  | 22-06-1960          | NONE  |  |
| DE 19954706                               | A  | 23-05-2001          | DE 19954706 A1<br>FR 2800982 A1   | 23-05-2001<br>18-05-2001   |
| DE 4344205                                | A  | 29-06-1995          | DE 4344205 A1   | 29-06-1995   |
| EP 1174363                                | A  | 23-01-2002          | US 6601729 B1<br>AU 2311701 A<br>EP 1174363 A1  | 05-08-2003<br>17-01-2002<br>23-01-2002   |
| US 3482733                                | A  | 09-12-1969          | NONE  |  |
| US 6177398                                | B1 | 23-01-2001          | GB 2320254 A<br>EP 0944711 A1<br>HU 0000590 A2<br>WO 9826039 A1   | 17-06-1998<br>29-09-1999<br>28-08-2000<br>18-06-1998   |
| EP 1104805                                | A  | 06-06-2001          | DE 29923876 U1<br>EP 1104805 A2<br>EP 1327676 A2<br>AT 242312 T<br>AT 242311 T<br>AT 241004 T<br>AT 212660 T<br>AT 211503 T<br>AT 215985 T<br>AT 213767 T<br>AT 243737 T<br>AU 762815 B2<br>AU 4964299 A<br>AU 761595 B2<br>AU 4964399 A<br>AU 4964499 A<br>AU 4968699 A<br>AU 4978599 A<br>AU 5093599 A<br>AU 5093699 A<br>BR 9912150 A<br>BR 9912157 A<br>BR 9912833 A<br>BR 9912834 A<br>BR 9912836 A<br>BR 9912838 A<br>CA 2333388 A1<br>CA 2333468 A1<br>CA 2333894 A1<br>CA 2337401 A1<br>CA 2337402 A1<br>CA 2337408 A1<br>CA 2337427 A1<br>CN 1309692 T<br>CN 1309693 T<br>CN 1337997 T<br>CN 1309694 T<br>DE 29911484 U1<br>DE 29911486 U1<br>DE 29923872 U1 | 30-08-2001<br>06-06-2001<br>16-07-2003<br>15-06-2003<br>15-06-2003<br>15-06-2003<br>15-02-2002<br>15-01-2002<br>15-04-2002<br>15-03-2002<br>15-07-2003<br>03-07-2003<br>07-02-2000<br>05-06-2003<br>07-02-2000<br>07-02-2000<br>07-02-2000<br>07-02-2000<br>07-02-2000<br>10-04-2001<br>10-04-2001<br>09-10-2001<br>02-05-2001<br>02-05-2001<br>02-05-2001<br>27-01-2000<br>27-01-2000<br>27-01-2000<br>27-01-2000<br>27-01-2000<br>27-01-2000<br>27-01-2000<br>22-08-2001<br>22-08-2001<br>27-02-2002<br>22-08-2001<br>24-02-2000<br>18-11-1999<br>30-08-2001 |

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date      |
|---|---------------------|----------------------------|--------------------------|
| EP 1104805                                | A                   | DE 29923873 U1             | 26-07-2001               |
|   |                     | DE 29923874 U1             | 30-08-2001               |
|   |                     | DE 69900736 D1             | 28-02-2002               |
|   |                     | DE 69900736 T2             | 29-08-2002               |
|   |                     | DE 69900833 D1             | 14-03-2002               |
|   |                     | DE 69900833 T2             | 31-10-2002               |
|   |                     | DE 69900931 D1             | 04-04-2002               |
|   |                     | DE 69900931 T2             | 07-11-2002               |
|   |                     | DE 69901211 D1             | 16-05-2002               |
|   |                     | DE 69901211 T2             | 14-11-2002               |
| US 3062030                                | A                   | -06-11-1962                | NONE                     |
| US 3178915                                | A                   | 20-04-1965                 | AT 238402 B 10-02-1965   |
|   |                     |                            | CH 405637 A 15-01-1966   |
|   |                     |                            | DE 1403674 A1 24-10-1968 |
| US 3233778                                | A                   | 08-02-1966                 | NONE                     |